

Patent Claims:

1. Transformed plant and its progeny, characterized in that its regulatory sequences and/or gene copy number of an ATP/ADP translocator gene are modified in such a way that it exhibits one or more amino acids simultaneously in modified amounts in comparison with a corresponding untransformed plant.
2. Transformed plant and its progeny according to Claim 1, characterized in that it exhibits an increased transport capacity for ATP into the chloroplast membrane.
3. Transformed plant and its progeny according to Claim 1 or 2, characterized in that it exhibits predominantly one or more essential amino acid(s) in modified amounts.
4. Transformed plant and its progeny according to one of Claims 1 to 3, characterized in that it exhibits one or more essential amino acid(s) whose content is increased over that of the untransformed plant.
5. Transformed plant and its progeny according to one of Claims 1 to 4, characterized in that it is a useful plant.
6. ATP/ADP translocator gene for use in a plant according to one of Claims 1 to 5 with an *Arabidopsis thaliana* nucleotide sequence (EMBL Accession No. Z49227) encoding the amino acid sequence shown in Fig. 1.
7. ATP/ADP translocator gene according to Claim 6 with a naturally, chemically synthesized, modi-

fied, artificially generated nucleotide sequence with essentially the same action or with heterologous nucleotide sequences encoding an ATP/ADP translocator or allelic variations or isoforms thereof or with mixtures thereof.

- 5
8. ATP/ADP translocator gene according to Claim 6 or 7 with operably linked regulatory nucleotide sequences.
- 10
9. ATP/ADP translocator gene according to one of Claims 6 to 8 with an upstream, operably linked promoter.
- 15
10. Gene structure comprising an ATP/ADP translocator gene according to one of Claims 6 to 9 and regulatory sequences linked operably to this gene.
- 20
11. Vector comprising an ATP/ADP translocator gene according to one of Claims 6 to 9 or a gene structure according to Claim 10.
- 25
12. Vector according to Claim 11 comprising additional regulatory nucleotide sequences, preferably from the group of the promoters, terminators or translation enhancers, and nucleotide sequences for the replication in a suitable host cell or for integration into its genome.
- 30
13. Seeds of the plant according to one of Claims 1 to 5.
- 35
14. Tissue or cells or material capable of propagation from the plant according to one of Claims 1 to 5.
15. Method of generating a plant with an increased amino acid content according to one of Claims 1 to 5, characterized in that an ATP/ADP translocator gene according to one of Claims 6 to 9 or a gene

structure according to Claim 10 or a vector according to Claim 11 or 12 is transferred by recombinant methods.

- 5 16. Use of the transformed plant according to one of
Claims 1 to 5 as useful plant or fodder plant.

17. Use of the transformed plants according to one of Claims 1 to 5 or of tissue or cells thereof or of extracts thereof in sectors of agriculture, the feedstuff industry, the pharmaceutical industry or in the health sector.